



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/756,453	01/08/2001	Richard Bolling	ADO 0069 PA	5555

7590 09/09/2004
Killworth, Gottman, Hagan & Schaeff, L.L.P.
One Dayton Centre, Suite 500
Dayton, OH 45402-2023

EXAMINER

BISSETT, MELANIE D

ART UNIT	PAPER NUMBER
----------	--------------

1711

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/756,453

Applicant(s)

BOLLING ET AL.

Examiner

Melanie D. Bissett

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15,17-19,21,23,24,26 and 28-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15,17-19,21,23,24,26,28-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Art Unit: 1711

1. The rejections based on 35 USC 102 and 103 have been maintained. The objection under double patenting has been withdrawn based on the applicant's amendments.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 15, 18-19, 21, 23-24, 26-~~27~~, and 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Johnson et al. '701 or Johnson et al. '589. The '589 reference can be found on the applications Form PTO-1449 dated 11/5/03.
4. From a prior Office action:

The references both teach sheets for sealing gaps, where a material is heated to a melting point for filling gaps and concealing defects (figures; '589, col. 4, lines 3-19; '701, col. 3 line 66-col. 4 line 14). A second melt-flowable layer may be adhered to a surface of the original melt-flowable layer, where the second layer comprises blowing agents, foaming agents, or other expandable materials ('589, col. 15, lines 31-45; '701, col. 15, lines 38-58). The second layers have different melt flow properties, where the references exemplify the second layer having greater melt flow properties such that the second layer flows before the original layer ('589, col. 16, lines 1-7; '701, col. 17, lines 51-57). The references teach a number of materials useful as melt-flowable layers, indicating melt temperatures as low as 50 °C ('589, col. 5 line 61-col. 6 line 6; '701, col. 5, lines 55-67). Thus, the layers are capable of flow at higher temperatures. Note that claim 21 is drawn to an intended future use of the claimed combination. The layers may be co-extruded or coated to form sheets ('589, col. 6, lines 49-65; '701, col. 6, lines 43-59). In this case, the original layer would inherently act as a flow control layer, since it remains solid at the point where the second layers flow. Also, since the original layer would remain solid while the second layer melts, the second layer would inherently exhibit less sagging than it would without a solid layer attached to its surface. Thus, the references teach a combination of a heat activated expandable sheet (second layer) and a flow control agent on its surface (original layer). Note that the second layers are capable of melting and flowing into a gap or cavity; thus, they meet the intended use limitations of the claims.

5. Regarding new claim 31, note that Johnson teaches two-layered structures, where no additional layers are needed. Also, where additional layers are suggested by Johnson, it is noted that the applicant does not teach that such layers would materially affect the invention. Thus, the claims do not exclude such additional layers.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 15, 17-19, 21, 23-24, 26-~~27~~, and 30, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Johnson et al. '579 or Johnson et al. '701, each in view of Greenwood.

8. From a prior Office action:

The references both teach sheets for sealing gaps, where a material is heated to a melting point for filling gaps and concealing defects (figures; '589, col. 4, lines 3-19; '701, col. 3 line 66-col. 4 line 14). The references teach a number of materials useful as melt-flowable layers, indicating melt temperatures as low as 50 °C ('589, col. 5 line 61-col. 6 line 6; '701, col. 5, lines 55-67). Thus, the layers are capable of flow at higher temperatures. Note that claim 21 is drawn to an intended further use of the claimed combination. The layers may be extruded ('589, col. 6, lines 49-65; '701, col. 6, lines 43-59). The references teach the application of web or scrim layers between two melt-flowable layers as flow control layers ('589, col. 15, lines 46-54; '701, col. 15, lines 59-67). Thus, the web or scrim layers would be on the surface of two melt-flowable layers. Also, the reference teaches the application of thermoplastic films that are dimensionally stable at the processing temperature ('589, col. 6, lines 49-65; '701, col. 6, lines 43-59). Second layers may be extruded or coated. Since the web, scrim, or thermoplastic film layer would remain solid while the melt-flowable layer melts, the melt-flowable layer would inherently exhibit less sagging than it would without a solid layer attached to its surface. However, the references do not seem to indicate that the original melt-flowable layers are expandable.

Greenwood teaches sealant compositions having a binder resin and volatile blowing agent-containing microspheres (abstract). The sealing compositions are formed into sealing tapes, useful in the automotive industry, where foamable sealant tapes allow for easier gap filling than

non-foamable sealants due to the expandable nature of the composition (col. 1 lines 23-40; col. 3 line 62-col. 4 line 7). Heating causes the microspheres to expand the composition to fill the gaps. Since the Johnson references are also drawn to sealant tapes for filling gaps, it is the examiner's position that it would have been prima facie obvious to use blowing agents in the melt-flowable layers of the Johnson inventions to allow for expansion of the flowing resins. Motivation for this addition would have been to aid in the filling of the gaps by allowing for expansion.

Regarding the polyvinyl acetate layers, the Johnson references teach that PSA layers may be applied to the melt-flowable layer, where the melt-flowable layer flows at least to the edges of the PSA layer ('589, col. 16, lines 8-15; '701, col. 17, lines 58-65). Thus, the melt-flowable layer has a higher melt flow rate than the PSA layer, and so the PSA layer inherently acts as a flow control layer. The combination formed as such is capable of melting and flowing into a gap or cavity. Among the PSA compositions useful in the invention, vinyl acetate PSA's are noted ('589, col. 16, lines 16-30; '701, col. 17 line 66-col. 18 line 13). The PSA materials are extruded or coated onto the melt-flowable layers to form a dry coating. It is the examiner's position that it would have been prima facie obvious to choose a vinyl acetate PSA layer to be applied to an expandable melt flowable layer to form a sheet capable of being positioned on a surface prior to heating.

9. Regarding new claim 31, note that Johnson teaches two-layered structures, where no additional layers are needed. Also, where additional layers are suggested by Johnson, it is noted that the applicant does not teach that such layers would materially affect the invention. Thus, the claims do not exclude such additional layers.

10. Claims 28-29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Johnson et al. '589 or Johnson et al. '701, each in view of Delle Donne et al.

11. From a prior Office action:

The Johnson references apply as above for a melt-flowable layer combination in the form of a sheet; however, the references do not mention the layers in thermoformed articles. Delle Donne teaches a heat reactive patch for sealing gage and drain holes in automobile bodies, where the patches are shaped into different articles, inserted into a drain or gage hole, and heated to further thermoform to the cavity (abstract; col. 3, lines 1-23). Sheets of thermoplastic material are thermoformed into different shapes for covering holes, where the thermoforming allows the sheets to take the general form of the holes to be filled for better coverage (col. 9 lines 1-6). Since the Johnson references are drawn to heat activated sheets for filling cavities, it is the examiner's position that it would have been prima facie obvious to form these sheets into thermoformed parts

to cover holes of various shapes. The parts would inherently be considered "pocket sealers" since they would be functional for sealing holes in automotive bodies.

12. Claims 28-29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Johnson et al. '579 or Johnson et al. '701, each in view of Greenwood as applied to claims 15, 17-19, 21-24, 26-27, and 30 above, and further in view of Delle Donne et al.

13. From a prior Office action:

The Johnson and Greenwood references apply as above for a melt-flowable layer combination in the form of a sheet; however, the references do not mention the layers in thermoformed articles. Delle Donne teaches a heat reactive patch for sealing gage and drain holes in automobile bodies, where the patches are shaped into different articles, inserted into a drain or gage hole, and heated to further thermoform to the cavity (abstract; col. 3, lines 1-23). Sheets of thermoplastic material are thermoformed into different shapes for covering holes, where the thermoforming allows the sheets to take the general form of the holes to be filled for better coverage (col. 9 lines 1-6). Since the Johnson references are drawn to heat activated sheets for filling cavities, it is the examiner's position that it would have been prima facie obvious to form these sheets into thermoformed parts to cover holes of various shapes. The parts would inherently be considered "pocket sealers" since they would be functional for sealing holes in automotive bodies.

Response to Arguments

14. In response to the applicant's arguments that Johnson teaches a second melt flowable layer, optionally comprising blowing agents, on the top of the original melt flowable layer, it is noted that the claims are drawn to a combination of two materials. The relationship between the layers and a substrate is irrelevant, since a specific relationship between the layers and a substrate is not claimed. Although the claims now recite that the two layers overlay a gap or cavity, the claims do not specify which

layer of the combination must be in *direct* contact with the substrate. It is the examiner's position that the Johnson references teach film structures having two melt flowable layers, where one layer has a higher melt flow rate than the other. Because the materials are capable of flow and because the references teach the materials as filling gaps and cavities, it is the examiner's position that the combinations taught by Johnson inherently meet the applicant's intended use of flowing into a gap or cavity.

15. Regarding the applicant's arguments that the references do not teach sealing a gap in the substrate, it is noted that the surface coverings for sealing imperfections serve to seal gaps in the substrate. Also, the reference specifically teaches filling gaps, as noted above.

16. Regarding the applicant's arguments that Johnson does not teach a heat activated expandable sealant, it is the examiner's position that the reference *teaches* an expandable *second* melt flowable layer and that it would be *obvious* to include blowing agents in the *first* melt flowable layer. In either case, the result is a heat activated expandable sealant layer. As stated above, the relationship between the layers and the substrate (top or bottom) is irrelevant in regards to the present claims. Although the applicant argues that Johnson does not teach the addition of blowing agents for the purpose of filling the gaps or cavities, it is noted that this is an intended use of the applicant. Since the reference teaches the use of blowing agents in the second layer and it is the examiner's position that it would be obvious to include blowing agents in the first layer, the resulting compositions would inherently serve to fill the gaps or cavities.

17. In response to the applicant's arguments that the newly added claim excludes scrim layers or additional PSA layers noted by Johnson, the examiner's position has been stated above. The applicant does not teach that the use of such layers would prevent the combinations from their inventive function. Thus, such layers are not excluded by "consisting essentially of" language.

18. Regarding the applicant's arguments that, in order for there to be inherency, the asserted result—less sagging—would need to occur for all embodiments, the examiner disagrees with this point. The references teach embodiments which would inherently possess the claimed property. Since these embodiments are taught and anticipated by the reference, the claimed results which are inherent to the compositions do not yield patentable subject matter. The fact that the reference teaches additional embodiments does not detract from the fact that some full embodiments would anticipate the claimed combinations and properties. One skilled in the art would clearly envision the embodiments of the invention that would inherently possess the claimed sagging properties. It is the examiner's position that a layer having a lower melt flow rate would inherently provide less sagging to a composite than a single higher-melt-flow-rate layer. The applicant has not provided evidence to show otherwise.

19. Regarding the dry coating limitations, the examiner has pointed to the references' teachings of the solid, tack-free state of the sheet materials. Thus, one skilled in the art would recognize the sheets as having dry coatings.

20. In response to the applicant's arguments that there is no motivation to add a blowing agent into the first layer of Johnson's invention, it is noted that Greenwood

teaches similar articles. Both references teach sealing tapes having melt flowable sealing layers, and both teach the application to seal gaps between joints. Greenwood specifically teaches that blowing agents aid in the filling of gaps due to the expansion of the materials. The Johnson references are concerned with the filling of gaps in certain applications. Thus, it is the examiner's position that the motivation for incorporating blowing agents into melt flowable sealant materials is clear from the Greenwood reference.

21. Regarding the applicant's arguments that Johnson teaches a number of PSA materials, it has been the examiner's position that it would have been *prima facie* obvious to *choose* the material from the list of suitable PSA materials. One of skill in the art would recognize the polyvinyl acetate materials as having equally improved PSA properties to the other materials listed and would recognize polyvinyl acetates as a suitable choice. Also, note again that the relationship between the layers has not been claimed.

22. In response to the applicant's arguments that the references do not suggest "pocket sealers", it is noted that the applicant has not defined such a term to differentiate the claimed materials from the prior art. The references teach the application of flowing materials to seal gaps, including surface imperfections and joint assemblies. These gaps, however small in size, would form pockets that the sheets would fill upon flow. Both the Johnson and Delle Donne references are drawn to heat reactive patches for sealing gaps. Thus, the references are analogous.

23. Regarding the applicant's arguments that thermoforming would serve no purpose in the Johnson references, it is noted that the Johnson references are concerned with the ability of the materials to conform to the gaps to be filled. Thus, it would have been *prima facie* obvious to perform the sheets to fit the desired gaps to *further* improve this conformity.

Conclusion

24. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie D. Bissett whose telephone number is (571) 272-1068. The examiner can normally be reached on M-F 8-4:30.

Art Unit: 1711

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mdb



James J. Seidleck
Supervisory Patent Examiner
Technology Center 1700